Applicant: Chaitanya S. Rajguru Attorney's Docket No.: 10559-519001 / P12423

Serial No.: 09/993,336

Filed: November 13, 2001

Page : 2 of 7

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

- 1. (Previously Presented) An apparatus comprising:
- a charge pump having a capacity that is preset to a particular value; and
- a measuring circuit including a voltage sensor to sense a voltage at an input and output of the charge pump and a temperature sensor to measure the temperature of the charge pump, wherein the measuring circuit is configured to measure an actual capacity of the charge pump and to reset the capacity of the charge pump to a value based on the measured capacity.
- 2. (Original) The apparatus of claim 1 wherein an output of the charge pump is preset to operate at particular voltage and current levels.
 - 3. 5. (Canceled)
- 6. (Original) The apparatus of claim 1 wherein the measuring circuit includes a current sensor to sense a current at an output of the charge pump.
 - 7. (Previously Presented) An apparatus comprising:

an array of memory cells; and

a charge pump circuit coupled to the array of memory cells to drive the array of memory cells, the charge pump circuit comprising:

a charge pump having a capacity that is preset to a particular value, and a measuring circuit including a voltage sensor to sense a voltage at an input and output of the charge pump and a temperature sensor to measure the temperature of the

Attorney's Docket No.: 10559-519001 / P12423

Serial No.: 09/993,336

Filed: November 13, 2001

Page : 3 of 7

charge pump, wherein the measuring circuit is configured to measure an actual capacity of the charge pump and to reset the capacity of the charge pump to a value based on the measured capacity.

8. (Original) The apparatus of claim 7 wherein an output of the charge pump is preset to operate at particular voltage and current levels.

9. - 11. (Canceled)

- 12. (Original) The apparatus of claim 7 wherein the measuring circuit includes a current sensor to sense a current at an output of the charge pump.
 - 13. (Previously Presented) A computer system comprising:

a central processor; and

a memory coupled to the central processor, the memory comprising:

an array of memory cells, and

a charge pump circuit coupled to the array of memory cells to drive the array of memory cells, the charge pump circuit comprising:

a charge pump having a capacity that is preset to a particular value, and a measuring circuit including a voltage sensor to sense a voltage at an input and output of the charge pump and a temperature sensor to measure the temperature of the charge pump, wherein the measuring circuit is configured to measure an actual capacity of the charge pump and to reset the capacity of the charge pump to a value based on the

14. (Original) The computer system of claim 13 wherein an output of the charge pump is

preset to operate at particular voltage and current levels.

15. - 17. (Canceled)

measured capacity.

Applicant: Chaitanya S. Rajguru Attorney's Docket No.: 10559-519001 / P12423

Serial No.: 09/993,336

Filed: November 13, 2001

Page : 4 of 7

18. (Original) The computer system of claim 13 wherein the measuring circuit includes a current sensor to sense the current at an input of the charge pump.

19. (Previously Presented) A method comprising:

measuring a capacity of a charge pump wherein measuring includes sensing a voltage at an input and output of the charge pump using a voltage sensor, and measuring the temperature of the charge pump using a temperature sensor; and

resetting the capacity of the charge pump to a value based on the measured capacity.

- 20. (Original) The method of claim 19 further comprising presetting a capacity of the charge pump to a particular value.
- 21. (Original) The method of claim 20 wherein presetting a capacity of the charge pump to a particular value includes presetting the charge pump to particular voltage and current levels.
 - 22. 24. (Canceled)
- 25. (Original) The method of claim 19 wherein measuring the capacity of the charge pump includes measuring a current at an output of the charge pump.

26. (New) A method comprising:

establishing a nominal value for a capacity of a charge pump sufficient to simultaneously affect a first number of flash memory cells at a particular voltage;

characterizing an actual capacity of the charge pump by measuring an output voltage level of the charge pump while an output current of the charge pump is kept at a constant value; and

resetting the nominal capacity value of the charge pump to a second capacity value based on the actual capacity,

wherein the second capacity value of the charge pump is sufficient to simultaneously affect a second number of flash memory cells.

- Applicant : Chaitanya S. Rajguru Attorney's Docket No.: 10559-519001 / P12423

Serial No.: 09/993,336

Filed: November 13, 2001

Page : 5 of 7

27. (New) The method of claim 25, wherein the second capacity value is reset by resetting the output voltage level of the charge pump.

- 28. (New) The method of claim 25, wherein the second number of flash memory cells is greater than the first number of memory cells.
- 29. (New) The method of claim 26, wherein characterizing the charge pump includes a temperature sensor to measure the temperature of the charge pump.
 - 30. (New) A method comprising:

establishing a nominal value for a capacity of a charge pump sufficient to simultaneously affect a first number of flash memory cells at a particular current;

characterizing an actual capacity of the charge pump by measuring an output current level of the charge pump while an output voltage of the charge pump is kept at a constant value; and

resetting the nominal capacity value of the charge pump to a second capacity value based on the actual capacity,

wherein the second capacity value of the charge pump is sufficient to simultaneously affect a second number of flash memory cells.

- 31. (New) The method of claim 30, wherein the second capacity value is reset by resetting the output current level of the charge pump.
- 32. (New) The method of claim 30, wherein the second number of flash memory cells is greater than the first number of memory cells.
- 33. (New) The method of claim 30, wherein characterizing the charge pump includes a temperature sensor to measure the temperature of the charge pump

Applicant: Chaitanya S. Rajguru Attorney's Docket No.: 10559-519001 / P12423

Serial No.: 09/993,336

Filed: November 13, 2001

Page : 6 of 7

34. (New) The method of claim 30, wherein affecting the flash memory cells comprises at least one of programming, erasing and reading the flash memory cells.

35. (New) A method comprising:

recognizing a difference between a nominal capacity value of a charge pump sufficient to simultaneously affect a first number of flash memory cells and an actual capacity value sufficient to simultaneously affect a second number of flash memory cells;

resetting the nominal value to the actual capacity value; and

using the actual capacity value of the charge pump to simultaneously affect the second number of flash memory cells,

wherein the second number of flash memory cells is greater than the first number of flash memory cells.